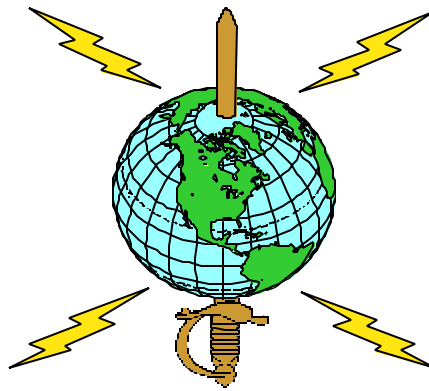


**COMBINED
COMMUNICATIONS-ELECTRONICS
BOARD**



**PUBLICATION 1
ORGANIZATION, ROLES
AND
RESPONSIBILITIES**

FOREWORD

Purpose. CCEB Publication 1 (Pub 1) contains the organization, roles and responsibilities for the CCEB.

Authority. Pub 1 is reviewed and ratified by the Principals at their annual Board meeting. The Executive Group (EG) issues this publication on behalf of the CCEB Principals. The provisions of this document shall govern the conduct of all business performed by the CCEB, subject to the respective laws and military regulations of the member nations.

Amendments. Pub 1 is amended in one of two ways: firstly, when the Principals make a decision or provide direction at the Board meeting that necessitates an amendment to Pub 1; or secondly when the EG determines that there is a need to amend Pub 1 between the annual Board meetings. In both cases the Permanent Secretary (PS), in conjunction with the Washington Staff (WS), will propose the text of the proposed amendment to the Chairman of the EG, then circulate the amendment to the nations for endorsement via Silence Procedure. Once all nations have endorsed the amendment, the PS will amend and re-issue Pub 1. The PS will issue all amendments electronically, usually as a complete rewrite of the publication.

Effective Date. This issue, Version 5.0, of Pub 1 supersedes all previous versions of the publication, and it is effective as of 20 June 2002.



Mr Roger O'Sullivan
Chairman, Executive Group

ACCEPTANCE OF AGREEMENT

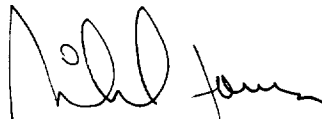
Publication 1 Version 5.0, the CCEB Organization, Roles, and Responsibilities are hereby approved. Signed this 20th day of June 2002, in Canberra, Australia.

On behalf of **AUSTRALIA**:



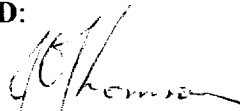
Rear Admiral Peter Clarke, RAN
Head Knowledge Systems

On behalf of **CANADA**:



Brigadier General Michel Jones
Director General Information Management, and Strategic
Direction

On behalf of **NEW ZEALAND**:



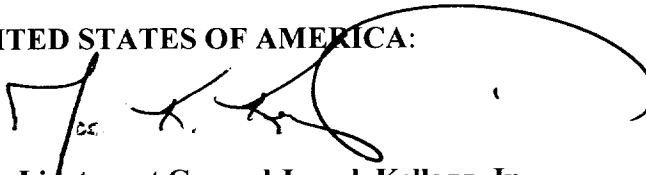
Colonel James Thomson
Director Joint Command, Control, Communications and
Information Systems

On behalf of the **UNITED KINGDOM**:



Major General Robert Fulton
Capability Manager (Information Superiority)

On behalf of the **UNITED STATES OF AMERICA**:



Lieutenant General Joseph Kellogg, Jr.
Director Command, Control, Communications, and Computer Systems (J-6)

TABLE OF CONTENTS

FOREWORD	2
ACCEPTANCE OF AGREEMENT.....	3
TABLE OF CONTENTS	4
CHAPTER 1 - INTRODUCTION.....	6
BACKGROUND AND HISTORY.....	6
CCEB PURPOSE.....	7
ACHIEVING THE PURPOSE.....	7
RESOURCES	8
ORGANISATION.....	9
LIAISON WITH OTHER INTERNATIONAL BODIES	12
CHAPTER 2 – KEY CCEB POLICY DOCUMENTS	13
CCEB STRATEGIC PLAN	14
COMBINED COMMUNICATIONS ELECTRONICS BOARD AND THE MULTINATIONAL INTEROPERABILITY COUNCIL STATEMENT OF COOPERATION	19
CFBLNET TECHNICAL ARRANGEMENT	22
COMMUNICATION INFORMATION SYSTEMS (CIS) TECHNICAL ARCHITECTURE STANDARDS ADOPTED BY THE CCEB NATIONS.....	24
MULTIFORA STATEMENT OF COOPERATION.....	26
SPECTRUM PRICING STATEMENT OF OPINION.....	30
SPECTRUM REALLOCATION STATEMENT OF OPINION	32
SIGNIFICANCE OF SPECTRUM ACCESS FOR MILITARY OPERATIONS	36
CHAPTER 3 – ROLES	38
CCEB OVERVIEW	38
EXECUTIVE GROUP	39
WASHINGTON STAFF	40
TERMS OF REFERENCE	41
INFORMATION SECURITY WORKING GROUP (INFOSEC WG)	41
PUBLIC KEY INFRASTRUCTURE TASK FORCE (PKI TF).....	42
FREQUENCY PLANNING WORKING GROUP (FPWG)	42
DIRECTORY SERVICES WORKING GROUP (DSWG)	43

CWAN WORKING GROUP (CWAN WG)	43
ALLIED COMMUNICATIONS PUBLICATIONS WORKING GROUP (ACP WG)	44
MESSAGING TASK FORCE (Messaging TF)	44
VIDEO TELECONFERENCING TASK FORCE (VTC TF)	45
CHAPTER 4 – SUBSTRUCTURE MODUS OPERANDI.....	46
GENERAL	46
WORKING ROUTINE	46
MANAGEMENT PLAN ONTOLOGY	47
CCEB MARKETING PLAN	48
CCEB LESSONS LEARNED PROCESS	49
CHAPTER 5 - RESPONSIBILITIES	52
CHAIRMAN OF PRINCIPALS	52
CHAIRMAN OF THE EXECUTIVE GROUP	53
CHAIRMAN OF THE WASHINGTON STAFF.....	54
PERMANENT SECRETARY.....	56
WORKING GROUP OR TASK FORCE CHAIRMAN.....	57

CHAPTER 1 - INTRODUCTION

BACKGROUND AND HISTORY

101. The Combined Communications-Electronics Board (CCEB) is a five-nation joint military communications-electronics (C-E) organization whose mission is the co-ordination of any military C-E matter that is referred to it by a member nation. The member nations of the CCEB are Australia, Canada, New Zealand, the United Kingdom and the United States of America. The CCEB Board consists of a senior Command, Control, Communications and Computer (C4) representative from each of the member nations.

102. The first high-level proposals for a structure to formulate combined communications-electronics policy were exchanged between the UK and US in March 1941. These proposals led to the development of the Combined Communications Board (CCB) that held its first meeting under Lord Mountbatten in Washington, D.C. on 24 July 1942. CCB membership consisted of two representatives from the United States Army, two representatives from the United States Navy, three UK representatives and one representative each from Australia, New Zealand and Canada. The CCB grew to 33 sub-committees established to consider all communication specialist areas.

103. The CCB produced all combined communications-electronics publications used by the member nations. It also produced at that time more than two million additional copies, in 12 languages, for use by CCB allies. The work of the CCB continued after the war until 14 October 1949 when it was reduced in size and commitment with the formation of NATO and dissolution of the Combined Chiefs of Staff Organization. The United Kingdom Joint Communications Staff, Washington and the United States Joint Communications-Electronics Committee continued to meet on regular basis as the US-UK Joint Communications-Electronics Committee with representatives of Australia, Canada and New Zealand attending as appropriate.

104. Canada became a full member of the organisation in 1951, Australia in 1969 and New Zealand in 1972. In 1972 the organisation was renamed the Combined Communications-Electronics Board.

105. In 1986 the CCEB agreed to broaden its TOR to include communication and information systems in support of command and control.

CCEB PURPOSE

106. The CCEB has adopted the following purpose statement:

*To maximize the Effectiveness of the Warfighter in Combined Operations
by Delivering Capabilities, Policies, Procedures and Radio Spectrum
that Optimizes Information and Knowledge Sharing.*

ACHIEVING THE PURPOSE

107. As the only joint or combined organisation whose focus is entirely on Command, Control, Communications and Computer (C4) interoperability matters, the CCEB is uniquely positioned to provide C4 technical leadership within the joint and combined environment. In exercising its leadership, the CCEB will co-ordinate and harmonize its efforts with those of the single Service fora, TTCP, NATO and MIC with regards to C4. As appropriate, the CCEB will either take the lead or provide expert technical support to single Service organisations on issues selected for coordination. Where appropriate and when agreed, an individual CCEB country may be designated as lead nation on a particular issue. This may occur when a nation has the greatest or most pressing need to set a standard that is needed for a national project.

108. The CCEB nations recognize that interoperability within the NATO alliance is an essential operational issue for three of the member nations. Therefore, harmonization of standards, practices and procedures, where appropriate with NATO is to be achieved to the greatest possible extent. Historically, CCEB nations have had a major positive impact on NATO's wider coalition C4 (technical) interoperability through the generation and distribution of communications procedural documents titled Allied Communications Publications (ACPs). The NATO alliance and many like minded nations have come to depend upon ACPs for their communications operations, and the CCEB has thus become a respected "communications standards" organization. Continued maintenance and generation of new ACPs in response to adoption of newer technologies by nations' militaries is a fundamental objective of CCEB and vital to its relevancy in coalition operations. Maintaining ACPs is one of the CCEB's "core competencies".

109. The CCEB serves as a beacon to keep the member nations collectively on track. As the CCEB does not own infrastructure, interoperability among the member nations is achieved by setting architecture, standards and operational procedures such that the totality of the various capabilities fielded over time will act increasingly as a virtual single system. It provides a forum whereby national programmes are able to achieve alignment of and interoperability of their capabilities. The CCEB Management Plan provides the road map by which the CCEB plans to undertake tasks in order to achieve future interoperability, but interoperability will only occur if nations use CCEB-developed standards in their procurement programs.

110. Although it will be necessary for the CCEB to develop some military standards, communications and related procedures, notably in the areas of military messaging where

insufficient standards exist, the standards selected for agreement by the CCEB will follow the trends of nations to adopt commercial standards and products to meet military requirements. The onus on the CCEB will be first to define the various common capabilities for which agreement is needed and then to follow a process of selection, ratification and publication of associated standards and procedures. Where appropriate CCEB nations may agree to accept a national solution for a particular requirement. This may occur when there is no ready solution to an allied problem, and acceptance of a national solution by other nations will permit interoperability.

111. The standards needed to ensure the gradual building of a virtual single combined information system are articulated in the NATO NC3A Technical Architecture (TA) documentation. The CCEB adopted the NATO document and agreed it as the primary TA reference and CCEB nation participate in its maintenance. When a CCEB nation or single service fora seeks clarification, amendment or process modification to the TA, the process to be followed is for the WS to be provided with a written detailed submission for formal processing with NATO.

112. Except for certain areas that may require the unanimous agreement and ratification by the CCEB Principals, material will be published as guidance documents to accelerate the visibility of CCEB intentions within nations and organisations that are concerned about combined interoperability. Where unanimous agreement and ratification is required, or the contents have the potential to impact significantly the nations, CCEB developed material will normally be published as an Allied Communications Publication (ACP). CCEB work practice requires that every nation respond to all issues under consultation before a CCEB position can be formulated.

113. The CCEB shall take advantage of ongoing efforts and consider existing mature solutions, wherever they may be found. While there are immediate benefits from this approach, the full attainment of future higher levels of interoperability will best be achieved through compliance with CCEB standards, practices and procedures, and the extension of interoperability agreements to potential coalition partners.

RESOURCES

114. The CCEB examines military communication-electronics issues and influences delivery of necessary capability to ensure allied interoperability. This it undertakes in association with research, single Service fora and other interoperability organisations, striving to establish a framework for interoperability. Whilst the CCEB does not control national procurement initiatives, or mandate the use of particular standards, future equipment acquisition will be strongly influenced by the standards, policies and procedures, which the CCEB develops.

115. The CCEB has a permanent full-time staff of one officer - the Permanent Secretary (PS). All other personnel, including the Principals, members of the Executive Group (EG), the Washington Staff (WS), and all of the international members who work on issues of mutual concern, are drawn from national organisations on a part time basis.

116. The CCEB Strategic Plan and the CCEB Management Plan provide details of specific tasks to be achieved, but the actual resource implications and their allocation must be planned for and provided by the participating nations and WG/TF involved. Every effort will be made to keep the resource demands to a minimum. This will be achieved by taking advantage of the work done by other bodies, which will also ensure that work is not duplicated, and by employing such techniques as asking a single nation to carry out work on behalf of the other member nations whenever it is appropriate. Nations having funded programs for specific capabilities are in the best position to dedicate some resources towards the development of the associated international standards needed for CCEB commonality.

ORGANISATION

117. The nominated senior C4 Representatives of the individual national joint military C-E organisations are known as “Principals”. The term “Board” is used to describe the collective Principals: the term “CCEB” is used to describe the organisation as a whole, which consists of component groupings: Principals; Executive Group (EG); Washington Staff (WS); National Staff (NS); and Working Groups (WGs). Collectively, the Principals, NS, EG and WS have the responsibility for considering any military C-E matter which is referred to it by a participating nation or international organisation. In practice, the business concentrates on determining which aspects of interoperability are suited for CCEB processes, and maintaining the currency of existing policies, standards and procedures in ACPs.

118. The component groupings of the CCEB are as follows:

- a. Principals. The Principals meet formally as a Board annually to reflect on the achievements of the past year and to give overall direction for the upcoming year’s activities. Throughout the year, the Principals will use video teleconferencing (VTC) and other media (as required) to receive updates on specific issues and to provide necessary direction as required. The Principals will influence their respective nations, either in championing policy changes or directing specifications in procurement, to further the goal on C4 interoperability. Chairmanship, which changes after each annual meeting, passes in succession in the order of Australia, Canada, the United Kingdom, New Zealand and the United States of America.
- b. Executive Group (EG). The EG formally meets three times a year. The EG coordinates the development of the policy and planning needed to support the business of the CCEB, progresses combined C-E interoperability on behalf of the Board, and prioritizes and recommends allocation of resources. Throughout the year, the EG will use video teleconferencing and other media (as required), to receive updates on specific issues and to provide necessary direction as required. The chairmanship of the EG is linked to the chairmanship of the Board.
- c. Washington Staff (WS). The WS comprise the nominated national representatives located in Washington DC. They are tasked individually in a

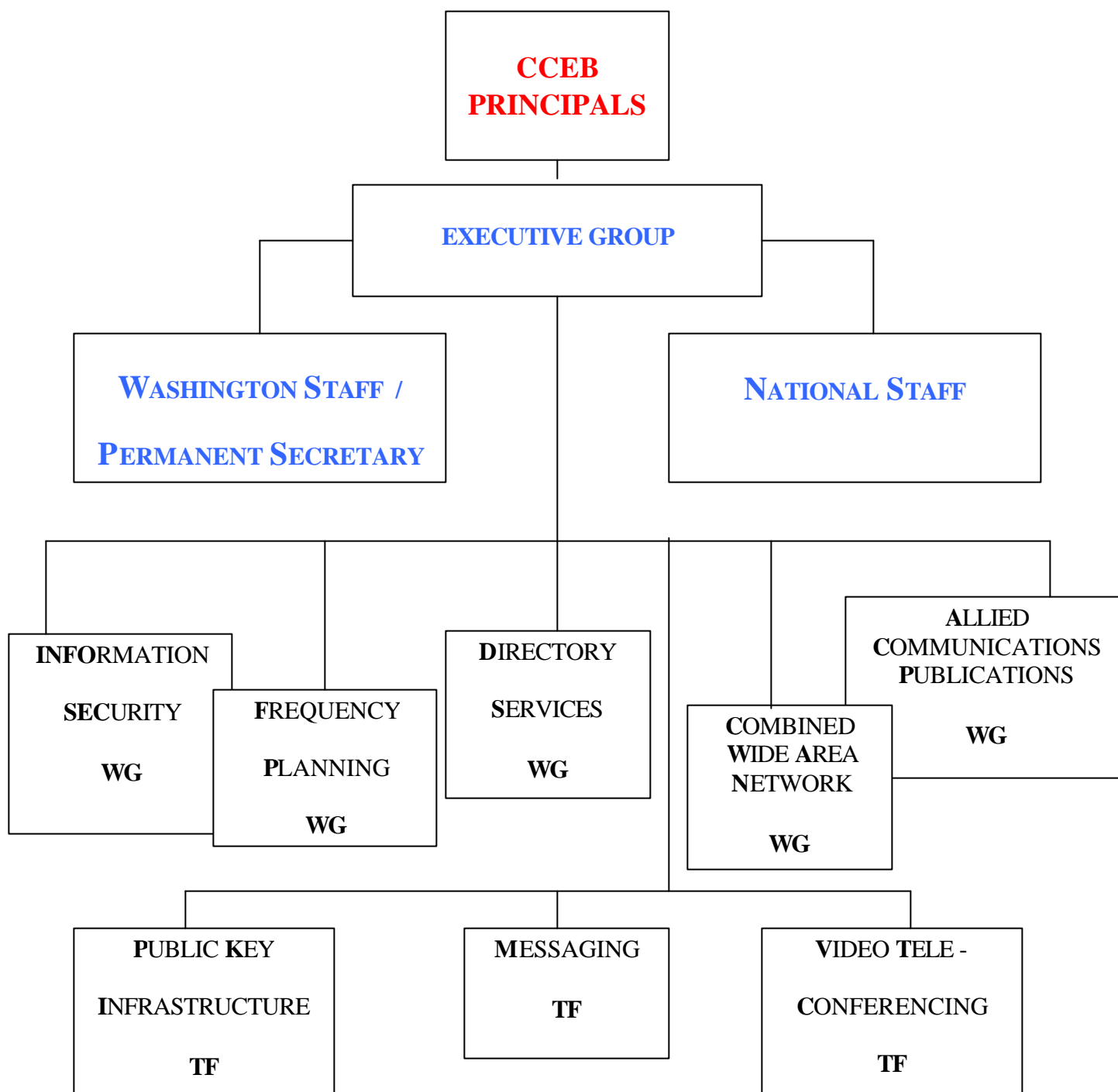
manner determined by each nation. Collectively, the WS act for, and in the name of, the Principals on matters not requiring Board or EG approval. The WS nominee for the chairmanship is agreed by the EG at the meeting it normally holds in the fourth quarter of each calendar year. The individual WS members have, to an extent determined within each nation, national responsibility to their respective EG representative and Principal.

- d. National Staff (NS). This is a generic term to describe those staff members in national headquarters who function, to an extent determined within each nation, to support the Principal and national EG member on CCEB business. The NS do not meet as a formed body.
- e. Permanent Secretary (PS). The PS is the full-time CCEB staff member who co-ordinates the day to day business of the CCEB. The PS acts on behalf of and is tasked by the chairmen of the EG and the WS.
- f. Working Groups (WGs). The WGs are normally established as either a standing body or an ad-hoc group to consider specified CCEB issues. The current WGs are:
 - (1) The Information Security Working Group (INFOSEC WG),
 - (2) The Frequency Planning Working Group (FP WG),
 - (3) The Directory Services Working Group (DS WG),
 - (4) The Combined Wide Area Network Working Group (CWAN WG), and
 - (5) The Allied Communications Publications Working Group (ACP WG).
- g. Task Forces (TFs). CCEB TFs are normally established to address a specific short-term issue. The current CCEB TFs are:
 - (1) The Messaging Task Force (Messaging TF),
 - (2) The Public Key Infrastructure Task Force (PKI TF), and
 - (3) The Video Conferencing Task Force (VTC TF).

119. The CCEB's WGs and TFs are populated by national specialist representatives who convene under an internationally rotating chairman, and report to and receive tasking from the EG on behalf of the Principals.

120. When warranted the EG on behalf of the Principals may order the establishment of expert groups, in the form of a Tiger Team (TT), to address C4 interoperability issues needing immediate resolution or to rapidly progress coordination between WGs and TFs working on interrelated timeline dependent activities.

121. Tabled below is the CCEB Organizational Chart (Figure 1 – 1).



LIAISON WITH OTHER INTERNATIONAL BODIES

122. As the CCEB is the organisation responsible for enhancing joint interoperability of allied C4, an important role for the CCEB is to interact closely on C4 matters with the Multinational Interoperability Council (MIC), NATO and other single Service and research organisations. To this end, the CCEB strongly promotes and encourages both formal and informal co-operative efforts with other joint and combined organisations. Wherever possible and when invited, the CCEB will be appropriately represented and will provide presentations at other groups' plenary meetings and subordinate group meetings.

CHAPTER 2 – KEY CCEB POLICY DOCUMENTS

GENERAL OVERVIEW

201. This chapter contains key CCEB policy documents in support of organizational activities and relationships. Additionally, from time to time the Principals may decide to express their position on any issue in which they hold a professional interest. When required this shall take the form of "A Statement of Opinion". Such a statement shall not be limited by type or duration and shall be promulgated in CCEB Pub 1 and be formally reviewed at least annually. Statements of Opinion shall remain on the record until removed by order of the Principals. If required each nation may further promulgate such statements in whatever manner it sees fit.

202. Document List:

- a. CCEB Strategic Plan
- b. Combined Communications Electronics Board and the Multinational Interoperability Council (MIC) Statement Of Cooperation (SOC)
- c. CFBLNet Technical Arrangement
- d. Communication Information Systems (CIS) Technical Architecture standards adopted by the CCEB nations
- e. Multifora Statement of Cooperation
- f. CCEB Statement of Opinion on 'Spectrum Pricing'
- g. An Aide-Me moiré on Military Spectrum Reallocation and Pricing Concerns.
- h. CCEB Statement of Opinion on the Significance of Spectrum Access for Military Operations.

CCEB STRATEGIC PLAN

CCEB PURPOSE STATEMENT

*To Optimise Information Sharing
by Delivering Capabilities, Policies and Procedures
in order to Maximize the Effectiveness of the Warfighter in Coalition Operations.*

INTRODUCTION

Today the defence forces of the AUSCANNZUKUS nations which form the Combined Communications-Electronics Board (CCEB) face the challenges of technology that enable dramatic change to organizational structures, operational concepts and command and control processes. Synergy between firepower and manoeuvre is achieved through the timely collection and dissemination of information. Commanders must possess information superiority through access to accurate, complete and on-demand information. This will allow them to achieve near real-time situational awareness of the battlespace, provide a decisive edge in warfare actions and protect their forces. Thus, knowing the battlespace is as important as owning it.

The present international security environment, and in particular the declared “War on Terrorism”, increases the likelihood that future operations involving CCEB nations will be coalitions or alliances. These will be complex and dynamic, involving military forces from within and outside those nations that make up the CCEB, and with significant civil, military and political interaction. Organizational and command structures must be flexible, varying according to operational necessity and national commitment. Typically, the composition of any force will be significantly different from any previous deployment, subject to indeterminate political pressures and requiring co-operation between forces that have disparate capabilities and little experience in working with each other.

The CCEB is a military organization that addresses C4 issues to enhance interoperability between its member nations at the strategic, operational and tactical levels of command. As the only joint combined organization focused entirely on C4 matters, it is uniquely positioned to provide C4 leadership within the combined and joint environment. The CCEB is seeking to deliver an environment that optimizes information sharing between coalition Warfighters. Working to priorities agreed with the Multi-national Interoperability Council (MIC), the CCEB seeks to achieve interoperability by developing and agreeing policies, procedures and standards as well as coordinating national programmes to deliver capabilities for the exchange of information in the combined or coalition environment.

THE CCEB STRATEGIC PLAN

To achieve its Purpose, the CCEB will collaborate among nations and with single Service fora, the MIC and other international organizations, focusing work to achieve the goals directed by an agreed Strategic Plan. This Plan directs CCEB effort to create an environment that enhances the interoperable capabilities that deliver or support the use of information that:

- ?? Meets the Warfighters' needs;
 - ?? Provides direct access to secure, accurate information for planning and decision making;
 - ?? Automates near real-time situational awareness in order to provide military and political leaders with the most accurate information possible on which to base decisions; and
- Is based on dependable, real time, secure communications between national HQs and to all deployed forces.

GOALS AND OBJECTIVES

Goals	Associated Objectives
Goal 1: Deliver C4 Interoperability to the Coalition Warfighter Develop and enhance Combined or Coalition C4 interoperability within nations, amongst allies and with other allied organizations	Manage CCEB activities Promote CCEB's role in the Defence community Take an active part in the MIC Manage interoperability products Influence future C4 capabilities to enhance interoperability Lead multi-national C4 coordination Develop technologies and procedures for the effective management of spectrum in the battlespace Champion member nations efforts towards network centricity
Goal 2: Deliver interoperable secure voice, data and video capabilities Provide the Warfighter with effective and interoperable communications and information services capabilities, maintain current capabilities and influence future development of capabilities.	Deliver: Secret email with attachments Secure telephony and RF voice Secure messaging and directory services Situational awareness information Interoperability of secure collaborative planning tools A secure web-based information environment multi-point secure VTC capability Identify information management issues and solutions
Goal 3: Deliver a Coalition Wide Area Network (CWAN) Provide interconnected secure network infrastructure capable of supporting allied information sharing services/capabilities	Develop, operate and maintain the interconnection of secure national fixed network infrastructures Develop the interconnection between infrastructure at the strategic, operational and tactical levels. Develop the policy and procedures required for secure infrastructure at the deployed operational and tactical levels Address security issues within the combined environment
Goal 4: Champion actions to optimise Military access to spectrum	Influence national positions at WRC by advocating coalition interests

THE WAY FORWARD

Implementing the Strategy.

Implementation commences with:

- ?? Publishing and communicating this Strategy throughout the CCEB community and with all other appropriate nations and fora
- ?? Maintaining a Management Plan which directs and prioritizes CCEB tasks and assigns resources
- ?? Working Groups and Task Forces planning work to achieve each of the Objectives and initiating actions to implement each Objective in a timely and collegial manner

Developing and maintaining CCEB publications and documents to reflect this Strategy

Implementation Priorities

The work of the CCEB has been prioritized in terms of urgency (the operational imperative), achieveability (can solutions be found at this time?) and cost (can the required resources be made available?), balancing the need to deliver the operators' highest agreed requirements as well as identify the technology and develop policies that enable future interoperability.

The following have been determined as the highest priority activities and CCEB efforts will be concentrated on delivering near-term solutions and products in these areas. Implementation priorities are to be used to direct the implementation of the Strategic Goals and their Objectives, and for the setting of agendas for meetings. The priorities are:

Priority	Activity
1	Establish a CWAN capability, initially enabling the exchange, at the strategic level, of SECRET emails with attachments
	Coordinate national effort at WRC to ensure the availability of military spectrum
	Achieve interoperability of secure military messaging and directory services
	Sustain current capabilities and improve communications procedures
2	Finalize the arrangements for secure video teleconferencing
	Progressively provide CWAN applications and services as a basis for information exchange
	Improve secure telephone interoperability
3	Develop information assurance policy and products to protect combined and coalition information and interconnected systems.
	Investigate and evaluate ways of improving the availability of information to the warfighter in the combined environment, concentrating on (Initially): <ul style="list-style-type: none"> ?? Common tool set for collaborative planning ?? Situational awareness ?? Web based information sharing

These priorities are to be used to direct the implementation of the Strategic Goals and their Objectives, and for the setting of agendas at meetings.

CONCLUSION

The imperative of providing improved C4 support to commanders places demands on the senior members of the CCEB to carefully plan, co-ordinate and allocate resources (including people, monies and facilities) amongst many worthwhile C4 initiatives. Success can be achieved by:

- ?? Gaining a shared understanding of joint and combined C4 requirements by working with allied and coalition groups
- ?? Focusing CCEB efforts on achieving the priorities articulated by the operations staff in the MIC
- ?? Influencing national C4 capabilities to achieve or enhance interoperability
- ?? Using a collaborative, collegiate, multi-disciplined team approach
- ?? Ensuring the CCEB adds value
- ?? Demonstrating developed capabilities
- ?? Protecting information assets from threat

Success will enable the CCEB to move through the 21st Century with the confidence that commanders are receiving appropriate C4 support for their mission.

CCEB Home Page: <http://www.dtic.mil/j6/cceb>

For the Australian Defence Force

.....
Rear Admiral P A C Clarke

For the Canadian Department of National Defence

.....
Brigadier General J C S M Jones

For the New Zealand Defence Force

.....
Colonel J O Thomson

For the United Kingdom Ministry of Defence

.....
Major General R H G Fulton

For the United States Department of Defense

.....
Lieutenant General J K Kellogg

COMBINED COMMUNICATIONS ELECTRONICS BOARD AND THE MULTINATIONAL INTEROPERABILITY COUNCIL STATEMENT OF COOPERATION

‘Cooperation embodies the coordination of all activities so as to achieve the maximum combined effort from the whole. Goodwill and the desire to cooperate are necessary at all levels within the Services, between the Services and the Government, and between Allies.

Cooperation is as essential in planning and preparation in peacetime as it is in conflict, and is greatly enhanced through the maintenance of joint and combined interoperability. It is a means of attaining concentration of combat power with prudent expenditure of effort’

An ADF Principle of War, ADFP1

The Combined Communications Electronics Board (CCEB) and the Multinational Interoperability Council (MIC) (the ‘Participants’):

- **RECOGNIZING** that military operations will increasingly involve joint and combined application of the national forces and that interoperability between Allied nations is essential for the successful conduct of joint and combined military operations;
- **RECOGNIZING** that Command, Control, and Communications and Computer Systems (C4) is a vital element of military operations;
- **RECOGNIZING** that sufficient commitment and resources must be applied by nations to resolve C4 issues of concern while being cognizant that resources available to the Participants at both the national and international level are limited;
- **RECOGNIZING** that closer coordination of efforts and increased cooperation between the Participants in areas of mutual concern may lead to enhanced operational effectiveness during joint and combined operations and more effective use of limited resources;
- **DESIRING TO RECORD ARRANGEMENTS** to establish procedures and agreements for further cooperation and coordination of effort to resolve C4 issues of mutual concern to the Participants;

HAVE DECIDED AS FOLLOWS:

ARTICLE 1: ROLE OF PARTICIPANTS

1. The role or principal objective of each Participant is as follows:
 - a. The Combined Communications Electronics Board (CCEB) role is to maximize the effectiveness of combined operations by the definition of a joint and combined C4 interoperability environment, and enhance interoperability of military communications and information systems in support of command and control. Member nations are: Australia, Canada, New Zealand, the United Kingdom, and the United States.
 - b. The Multinational Interoperability Council (MIC) role is to provide a multinational senior level forum to address policy, doctrinal, and planning issues affecting "information interoperability" in multinational operations. The overall goal of the MIC is to provide for the exchange of relevant information across national boundaries in support of the warfighter in coalition operations. Its member nations are: Australia, Canada, France, Germany, the United Kingdom, and the United States.

ARTICLE II: AIM

2. The aim of this Statement of Cooperation is to articulate for all participants the desire and direction of the CCEB and MIC leadership for a coordinated and cooperative approach to issues of mutual interest and concern.

ARTICLE III: STATEMENT OF COOPERATION

3. We ENDORSE the Statement of Cooperation as an enduring symbol of our common desire to develop, maintain, and enhance cooperation at all levels between staff of each Participant on issues of mutual interest or concern.
4. The MIC SUPPORTS the CCEB position as a leader in developing multinational C4 systems interoperability.
5. The CCEB SUPPORTS the MIC position as a leader in developing Joint/Combined doctrine and defining the Warfighters C4 requirements.
6. We INTEND that the CCEB Executive Group Chairman will also chair the Network Multinational Interoperability Working Group (MIWG) and that the CCEB will fully support the MIC Network MIWG. When the chairmanship of the CCEB Executive Group (EG) is held by a CCEB member nation that is not a MIC member, the CCEB EG will designate the Network MIWG Chairman.

7. The CCEB INTENDS that non-CCEB members of the MIC will be invited to participate in those CCEB groups directly involved in MIC directed activities.
8. We INTEND that New Zealand is granted observer status at MIC meetings.
9. We INTEND that the CCEB will be represented and provide status updates at the MIC, MIWG, and Executive Committee meetings as required.
10. We INTEND that the MIC will be represented and provide status updates at CCEB Board, Executive Group, and Working Group meetings as required.
11. We SUPPORT the exchange of information on ongoing or proposed tasks and INTEND that the outcomes and recommendations from joint cooperative activities will be freely available for consideration and implementation if appropriate, by both Participants, whether or not they were active participants in the activity.
12. We INTEND that this Statement of Cooperation is non-binding in law.
13. We INTEND that this Statement of Cooperation will enter into effect following endorsement of and signature by the Senior Principal of each of the Participants.

**For the Combined Communications
Electronics Board**

Signature: _____

Name: _____

Title: Chairman of Principals

Date Signed: _____

Place Signed: _____

**For the Multinational
Interoperability Council**

Signature: _____

Name: _____

Title: MIC Chairman

Date Signed: _____

Place Signed: _____

CFBLNET TECHNICAL ARRANGEMENT

INTRODUCTION

1. This document defines the Technical Arrangement among the principle participants upon which the Combined Federated Battle Laboratories Network (CFBLNet) will operate and conduct its multinational research and development mission to support future coalition operations.

BACKGROUND

2. In April 1999, the US made a proposal to the NATO C3 Board to establish a Combined Federated Battle Laboratories Network (CFBLNet). The Concept was to build on the Combined Wide Area Network (CWAN) that had been established each year for JWID, to establish a year-round network for research, development, test and evaluation (RDT&E) operating at a Combined Secret Releasable accreditation level.

3. The participants would include the US, the Combined Communications-Electronics Board (CCEB), and NATO. The Network would be used to develop coalition interoperability, doctrine, procedures and protocols that can be transitioned to operational coalition networks in future contingencies. This document defines the basis upon which the CFBLNet will operate among participants.

VISION

4. The vision of the CFBLNet is to provide the infrastructure of choice for international Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) RDT&E to explore, promote, and confirm Coalition/Combined capabilities for the participants.

SCOPE

Ownership

5. The CFBLNet will leverage JWID resources and existing NATO and national laboratories and test beds. It is not a US owned network. As a combined network, the participants will have equal say in its utilization and management, yet specific initiatives may be configured between any number of participants. The CFBLNet participants are to respect sovereign and intellectual property rights of activities conducted on the network.

Command and Control

6. The CFBLNet will fall under the oversight of a CFBLNet Senior Steering Group (C-SSG), comprised of three Flag level executives representing U.S., NATO, and CCEB. Control of the CFBLNet will be conducted by a CFBLNet Executive Group (C-EG) of 06 (or equivalent) level members also representing US, NATO and CCEB, working for the C-SSG members. The C-EG may stand up subordinate groups as required.

7. The Advanced Information Technology Services-Joint Program Office (AITS-JPO) will act as the Executive Agent and network manager for the CFBLNet. As Executive Agent, the AITS-JPO will maintain control over the day-to-day activities and the conduct of initiatives,

including network requirements of participants. The AITS-JPO will maintain close liaison with all other Services and agencies, and act as scheduler for all participants conducting initiatives utilizing the CFBLNet.

RESOURCES

8. No transfer of funds is envisioned to enable CFBLNet services. Participants are to provide connection to an agreed Defense Information System Network (DISN) Point of Presence (POP). All CFBLNet participants have the responsibility of maintaining their own systems support to the CFBLNet. Initiatives will be funded by contributing participants.

CFBLNet Physical Description

9. The CFBLNet utilizes a distributed Wide Area Network (WAN) as the vehicle to conduct initiatives. This will consist of a distributed and integrated architecture of allied, joint, and Service sites. It will include the applications, analytic tools, and communication necessary to conduct deliberate RDT&E. This hardware and associated software will be located within the confines of the various battle laboratories of the participants and will have a network centric management.

SECURITY

10. The CFBLNet provides a networked environment comprising a domain(s) with information protectively marked (classified) up to and including SECRET 'Releasable to AS, CA, NZ, UK, US and NATO'. Participants will be responsible for accrediting their systems to maintain the integrity of the CFBLNet.

MISCELLANEOUS

11. Any disagreement will be resolved amicably and expeditiously by consultation or negotiation between the participants. No other remedies will be available.

12. Any participants may terminate this arrangement by providing three (3) months written notice to the other party(ies).

13. It will come into effect upon the date of last signature below:

On behalf of CCEB:

On behalf of NATO:

BGen J.C.S.M. Jones (date)
Brigadier General, CF
CCEB Chairman

Mr. H.P. Dicks (date)
General Manager NC3A

On behalf of the UNITED STATES:

Charles E. Croom (date)
Major General, USAF
Vice Director for Command, Control, Communications and Computer Systems

COMMUNICATION INFORMATION SYSTEMS (CIS) TECHNICAL ARCHITECTURE STANDARDS ADOPTED BY THE CCEB NATIONS

1. **Purpose.** This CCEB COMAG is to promulgate CCEB policy on the agreed combined interoperability technical architecture standards that have been adopted between the CCEB nations.
2. **Background.** The mission of the CCEB is ‘to maximize the effectiveness of the Warfighter in joint and combined operations by optimizing information and knowledge sharing’. In support of this mission, the CCEB Principals pursued the formulation of a Combined Interoperability Technical Architecture (CITA) as a means of fostering the technical agreements, needed to promote interoperability between the communications and information systems (CIS) of CCEB nations.
3. This initiative resulted in the production of an integrated CCEB technical architecture document set composed of:
 - a. The CITA Rationale and Development Framework (CRDF) - CCEB Publication No 1007, and
 - b. The Combined Interoperability Technical Architecture (CITA) – ACP 140
4. The CITA specification contains the profile of technical CIS standards that will support current essential requirements for interoperability of CIS between the CCEB nations. The purpose of the CRDF is to provide supplementary information to the ACP140 and, to detail the process and rationale in the selection of services and their standard/s. The CRDF consequently captures the CCEB’s combined corporate knowledge used to produce ACP140.
5. All CCEB nations ratified the current versions of the CITA (ACP140A) and CRDF (CCEB Pub 1007 Issue 2) on 4 September 2001.
6. Notwithstanding the development of ACP140 and CCEB Publication 1007, the CCEB nations recognize that interoperability within the NATO alliance is an essential operational issue for three of the member nations. Therefore, harmonization of standards, practices and procedures where appropriate with NATO are to be achieved to the greatest possible extent. In March 2001 the CCEB decided to harmonize/converge the CCEB technical architecture document set with the appropriate NATO technical architecture document.
7. During 2001, in collaboration with the NATO Consultation, Command & Control (NC3) Board’s, Information Systems Sub-Committee (ISSC) (SC/5), the CCEB nations as members of the NATO Open Systems Working Group (NOSWG), converged ACP140A and CCEB Pub 1007 Issue 2 with the NC3 Technical Architecture (NC3TA) Volume 4 Version 2. The rationale for the selection of NCSP version 3 services and

standards is detailed in the document 'Rationale for the Selection of NCSP Services and Standards', Version 1 dated 27 November 2001 (ISSC NATO Open Systems Working Group AC/322(SC/5)N/215).

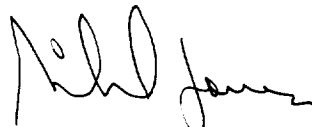
8. **Policy.** The NATO Consultation, Command & Control Technical Architecture (Allied Data Publication 34 (ADatP-34) - NC3TA) Volume 4 (Version 3) - NATO Common Standards Profile (NCSP) – are the agreed combined interoperability CIS technical architecture standards that have been adopted between the CCEB nations.

On behalf of **AUSTRALIA:**



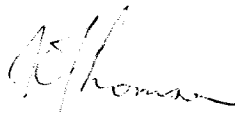
Rear Admiral Peter Clarke, RAN
Head Knowledge Systems

On behalf of **CANADA:**



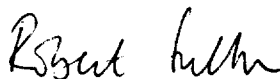
Brigadier General Michel Jones
Director General Information Management, and Strategic
Direction

On behalf of **NEW ZEALAND:**



Colonel James Thomson
Director Joint Command, Control, Communications and
Information Systems

On behalf of the **UNITED KINGDOM:**



Major General Robert Fulton
Capability Manager (Information Superiority)

On behalf of the **UNITED STATES OF AMERICA:**



Lieutenant General Joseph Kellogg, Jr.
Director Command, Control, Communications, and Computer
Systems (J-6)

MULTIFORA STATEMENT OF COOPERATION

As of 22 July 1999

Preamble

The following statement of cooperation between CCEB, ABCA, ASCC, AUSCANNZUKUS and TTCP has been agreed in principle between all parties. All parties, with the exception of TTCP have formally agreed to continued cooperation by signing the original statement that is held on file by the Permanent Secretary of the CCEB.

STATEMENT OF COOPERATION BETWEEN THE COMBINED COMMUNICATIONS ELECTRONICS BOARD, THE ABCA ARMIES STANDARDIZATION PROGRAM, THE AIR STANDARDIZATION COORDINATING COMMITTEE, THE AUSCANNZUKUS NAVAL C4 ORGANISATION AND THE TECHNICAL COOPERATION PROGRAM

‘Cooperation embodies the coordination of all activities so as to achieve the maximum combined effort from the whole. Goodwill and the desire to cooperate are necessary at all levels within the Services, between the Services and the Government, and between Allies. Cooperation is as essential in planning and preparation in peacetime as it is in conflict, and is greatly enhanced through the maintenance of joint and combined interoperability. It is a means of attaining concentration of combat power with prudent expenditure of effort’

An ADF Principle of War, ADFPI

The Combined Communications Electronics Board (CCEB) and the ABCA Armies Standardization Program (ABCA) and the Air Standardization Coordinating Committee (ASCC) and the AUSCANNZUKUS Naval Command, Control, Communications and Computers Organisation (AUSCANNZUKUS C4 Organisation) (the ‘Parties’):

- **RECOGNISING** that military operations will increasingly involve joint and combined application of the national forces and that interoperability between Allied nations is essential for the successful conduct of joint and combined military operations;

- **RECOGNISING** that Command, Control, Communications, and Computers (C4) is a vital element of military operations;

- **NOTING** that there are C4 issues of mutual interest and concern to the Parties (all or severally), which are often addressed concurrently but in isolation;

- **RECOGNISING** that sufficient commitment and resources must be applied by nations to resolve C4 issues of concern while being cognizant that resources available to the Parties at both the national and international level are limited;

- **RECOGNISING** that closer coordination of efforts and increased cooperation between the Parties in areas of mutual concern may lead to enhanced operational effectiveness during joint and combined operations and more effective use of limited resources;

- **DESIRING TO RECORD ARRANGEMENTS** to establish procedures and agreements for further cooperation and coordination of effort to resolve C4 issues of mutual concern to the Parties;

HAVE AGREED AS FOLLOWS:

ARTICLE 1: ROLE OF PARTIES

The role or principal objective of each organisation is as follows:

The ABCA Armies Standardization Program (ABCA) role is to ensure that Armies achieve agreed levels of standardization necessary for two or more ABCA Armies to operate effectively together within a coalition.

The principal objective of the Air Standardization Coordinating Committee (ASCC) is to ensure member nations are able to fight side-by-side as in combined operations.

The AUSCANNZUKUS Naval C4 Organization is established to monitor command, control, communications and computers interoperability with the aim of ensuring maximum possible interoperability among the five navies.

The Combined Communications Electronics Board (CCEB) role is to maximize the effectiveness of combined operations by the definition of a joint C4 interoperability environment, and interoperability of military communications and information systems in support of command and control.

The Technical Cooperation Program (TTCP) role is to provide a means of acquainting participating nations with each other's defence research and development programs so that each national program may be adjusted and planned in cognizance of the efforts of the other nations.

In all joint and combined operations, the Armies, Navies and Airforces' of the Allied nations may form bi-national or multi-national partnerships, but the principle of unity of command will dictate that command is exercised by a single combined joint task force commander. It is essential that forces under command are able to operate to their maximum effectiveness. Interoperability of all combat, combat support and combat service systems will be necessary, and in particular interoperable command, control and communications systems will be vital.

This Statement will focus on improving coordination of effort among the Parties in areas of mutual concern relating to joint force and combined interoperable command, control and communications. By recognizing that several of the signatories are involved in standardization issues wider than command, control and communications this agreement in no way seeks to limit the interaction of the Bodies on any other matter of mutual interest.

ARTICLE II: AIM

The Aim of this Statement of Cooperation is to articulate for all participants in the joint combined and single Service organizations the desire and direction of the Leadership of the Organizations for a coordinated and cooperative approach to issues of mutual interest and concern to two or more of the Organizations.

ARTICLE III: STATEMENT OF COOPERATION

We ENDORSE the Statement of Cooperation as an enduring symbol of our common desire to develop, maintain and enhance cooperation at all levels between staff of each organisation on issues of mutual interest or concern

We ENDORSE the conduct of joint activities of mutual benefit to two or more organizations. To this end, we NOTE and ENDORSE the establishment of joint working parties where this is practical and cost effective.

We ENCOURAGE coordination of effort to enhance allied interoperability which may reduce unnecessary duplication or nugatory effort on issues of common interest. To this end we encourage the exchange of details of meeting schedules and agendas and encourage representation by the other fora when possible.

We NOTE and SUPPORT the establishment of regular Multi-fora Meetings in Washington of the Management level of each organisation to develop and agree an equitable sharing of effort and resources on cooperative activities.

We AGREE that participation in joint activities is voluntary and that recommendations from joint activities will be available for consideration and implementation if appropriate within the individual organizations.

We SUPPORT the exchange of information on ongoing or proposed tasks and AGREE that the outcomes and recommendations from joint cooperative activities will be freely available for consideration, and implementation if appropriate, by all organizations, whether or not they were active participants in the activity.

We AGREE that this Statement of Cooperation is non-binding in law.

We AGREE that this Statement of Cooperation will enter into force following endorsement of and signature by the Senior Principal of each of the Parties. It will remain in force with the mutual agreement of the Parties.

IN WITNESS WHEREOF the undersigned, duly authorized thereto by their respective Commanders, have signed this agreement on the

For the ABCA Armies Standardization Program

Signature: [Original Signed]

Name: A.D. Pigott

Title: A/HOD UK TEAL

Date Signed: 1 March 1999

Place Signed: Upavon, UK

For The Technical Cooperation Program

Signature: [Not signed]

Name:

Title:.....

Date Signed:

Place Signed:.....

For the Air Standardization Coordinating Committee

Signature: [Original Signed]

Name: G.A. Miller

Title: UK Principals

Date Signed: 6 October 1998

Place Signed: London, England

For the Combined Communications Electronics Board

Signature: [Original Signed]

Name: A.C. Sleigh.

Title: Chairman CCEB Principals

Date Signed: 22 July 1998

Place Signed: London, England

For the AUSCANNZUKUS Naval C4 Supervisory Board

Signature: [Original Signed].

Name: R.M. Nutwell

Title: OPNAV N6B

Date Signed: 1 September 1998

Place Signed: Washington, D.C.

SPECTRUM PRICING STATEMENT OF OPINION

Approved by the Principals at P30M

Introduction. Spectrum has been recognized as a significant source of potential revenue by governments. One ramification of this is the practice of nations charging for use of the spectrum by visiting military forces. This may result in undesirable consequences on the conduct of military operations, exercises and training, or on the activities of CCEB forces operating in another CCEB nation. It may also impact on support for operations other than war, including support of government operations (GO) and non-government operations (NGO) in direct support of military or government activities of CCEB nations. This Statement describes the potential impact on military operational readiness resulting from spectrum cost and articulates the preferred position of the CCEB Principals regarding payment for spectrum used by CCEB military forces, and other authorized operations, within another CCEB nation.

This Statement has been agreed by the CCEB Principals and may be used to suggest points to include in national representations to government authorities who may be considering charging for the use of spectrum by visiting and guest military forces.

Discussion. Generally, countries do not have sufficient spectrum permanently assigned to their military forces to provide for the conduct of military operations, large-scale military exercises and training. Instead, when an event is conducted, sufficient additional spectrum is acquired for the requirement. This is the case whether or not the event is purely domestic or involves visiting or guest forces.

The concept of charging visiting forces for the use of radio frequency spectrum in order to conduct any type of military operation, exercise or training may endanger strategic cooperation and may compromise operational, exercise and training effectiveness. Although the prospect of receiving revenue for spectrum use for this kind of activity may be initially attractive, the CCEB believes there are numerous unintended negative consequences.

Of greatest concern is that the act of charging for spectrum use by allied military organizations, which are not themselves commercial revenue producing enterprises, may detract from the spirit of cooperation and continued efforts to achieve interoperability among friendly nations who may be called upon to engage in mutual defence or work together in a coalition operation anywhere in the world. As defence budgets are being reduced by significant amounts in every nation, the eventual, inevitable result of paying for spectrum use may well be a much-reduced scale of international training activity. This in turn will lessen the readiness and ability of our military forces to operate together.

Recommendation. While recognizing that charging for the use of spectrum is within national responsibility, it is recommended that the costs for spectrum needed to support the following activities be exempt from national charging regimes on the basis of reciprocity between the CCEB nations:

- ?? Military operations, exercises and training by visiting and guest forces, Government Operations (GO), and Non-Government Operations (NGO) in direct support of military or government operations of the CCEB member nations.
- ?? Such arrangements may be extended both to forces visiting for a temporary period, such as during operations, training or exercises, and also to guest forces remaining for an indefinite period of time.
- ?? In the case that national legislation demands charging for the use of spectrum, those fees that originate from visiting or guest CCEB forces should be dealt with by the host nation.

SPECTRUM REALLOCATION STATEMENT OF OPINION

Approved by the Principals at P28M

AN AIDE-ME MOIRE FOR MILITARY SPECTRUM REALLOCATION AND PRICING CONCERNS

INTRODUCTION

The radio frequency spectrum is a vital, but limited natural resource. It is the sovereign right of each nation to use the radio spectrum, within its borders, in any manner it sees fit. With the rapid evolution and application of new radio technologies, there is an increasing demand for spectrum for new services. The demand is expressed by both national and international agencies: business and users, internally, and in the International Telecommunication Union (ITU), representing the worldview at its biennial World Radiocommunication Conferences (WRCs).

AIM

This *Aide-Me moiré* aims to assist the Principals and other senior Defence staff in the task of protecting vital military interests, which need spectrum.

MILITARY PRINCIPLES

Spectrum that is lost will not be recovered; sharing is preferable.

This might be described as the master principle. Some senior officers, including some spectrum managers will talk about recovering spectrum from civil users in time of crisis/transition to war. This will only happen in extremes; otherwise, almost all spectrum, which is used by the civil sector, will be incorporated into the national broadcasting and telecommunications infrastructure, both of which are vital to mobilization and the war effort. Inter-service sharing is common practice in the civil sector - it requires effort but it can be made to work. "Exclusive" spectrum (exclusive military or exclusive civil) restricts sharing

Military interests must be recognized and protected by administrations as part of the broad national interest.

This is, in essence, what the frequency managers want the Principals to help with. Principals need to recognize that they are only one player (albeit, a very important one) in the spectrum access game. This should not deter them however from making the military's case whenever possible. Principals should, indeed, seek out opportunities to meet with their civil counterparts in the radiocommunications industry and, especially, in the national administration and to clearly state the military's spectrum requirements.

Force reductions may generate increased demand for spectrum-based systems.

This may be obvious to Principals, but some civilians have difficulty with the concept. In essence, force reduction, even major force reductions, do not, generally, reduce spectrum requirement unless a complete class of system is retired. Normally the only change in military spectrum use is that the congestion in military bands is reduced. Force reductions are, often, accompanied by programmes which aim to offset the worst effects on combat capabilities by increasing the capabilities and capacities of surveillance, warning, target acquisition, weapon control and guidance and command and control systems, almost all of which work in the spectrum. Far from reducing military spectrum requirements, therefore, force reductions might actually increase them.

The increasing performance requirements of systems require increased radio bandwidth.

*The laws of physics, or at least the radar equation, are at work here. To track smaller missiles, moving more quickly and closer to the wave tops then it is **necessary to** increase bandwidth - there as a limit to the gains which signal processing can make. Before the information can be processed enough information must be acquired for analysis to occur.*

Military spectrum use is tied to military tasks, which are set by government. Loss of spectrum may prejudice the tasks or dictate unexpected procurement requirements for replacement systems.

*This is a political/public policy consideration, which **should** be meaningful to senior officials in the national administration.*

Interference from/to military systems will have an adverse effect on operations.

A change in naval operations from "blue water" to "littoral water" has increased the likelihood of interference between maritime and shore based radio systems. A similar situation applies when training areas are decreased. Although the same amount of spectrum is required, the geographical area is smaller and invariably closer to populated areas resulting in an increased potential to cause interference.

Spectrum use is constrained by treaty obligations.

This cuts both ways. While the NATO/CCEB obligations can be used to justify spectrum access and, indeed the European industry respects the NATO Joint Frequency Agreement (NJFA), the fact is that the ITU Radio Regulations constitute a treaty regarding spectrum use and the military, by using "out of band" systems frequently violate the provisions of that treaty.

Spectrum must be reserved for contingencies and survivability.

This is a factor, which most annoys civilians, especially those in the private sector. This is a vital operational requirement which covers, for example, most of the 1215 - 1400 MHz bands which is used to provide ECM protection for Naval radars and all the channels which are reserved in COMMLANS. As far as military frequency managers

are concerned these "empty" channels are assigned, licensed and paid for. To civil users they represent a flagrant abuse of the spectrum and provide all the evidence needed to prove that the military wastes spectrum.

ECONOMIC FACTORS

The spectrum is vital for economic development.

Principals must be prepared for this point. It will be raised by private sector executives and by senior officials in the national administrations acting in support of their governments' efforts to increase national prosperity and create jobs.

Spectrum has a real capital value, which is growing and can generate revenue. A market-based approach to spectrum pricing may make sharing very difficult.

*There are really two factors here. The first concerns the capital value of the spectrum. It is indisputable. In countries where spectrum cannot be traded like any other commodity, the value of the spectrum is appreciated by those who have to pay for it. The second factor is that when the national regime allows for spectrum to be traded, as is the case in AS and NZ, then sharing the master principle can be very difficult. It is possible however, to design regulatory regimes, which can allow **both** spectrum rights and sharing. The fact that Australia and NZ have not done so does not make it impossible or even overly difficult.*

Spectrum can be seen as a commodity, which can be traded.

This is a fact. Some organizations see the spectrum as investment opportunities, which can increase in value and then traded for profit. This could encourage spectrum hoarding.

Military capabilities represent a national capital investment.

This is also a fact however it is often understated or overlooked.

Military budgets are not as flexible as commercial funding.

This is another important factor which is often unappreciated by executives in the private sector. There is a long simmering dispute between civil and military frequency managers re: the service life of systems. Civil systems evolved very quickly in the 90s in response to growing and increasingly sophisticated consumer demand and to the cost of spectrum. Military systems, on the other hand, stagnate because military budgets are stagnant. This means that military systems frequently use much more bandwidth than is technically necessary.

Competition in the market place can result in unused spectrum.

This factor relates to the duplication of systems and services, which results when, for example, TELECOM NZ and BCL each have national networks. Neither uses the available spectrum to capacity. The military are not the only ones who waste spectrum.

POLITICAL FACTORS

National spectrum management is subject to international regulations and pressures.

This is, in part, a repeat of the "treaty" factor above but with the addition of the aspect of pressures to conform. This is especially relevant to Canada and the UK both of which border large, dynamic economies.

The perceived reduction in the direct military threat encourages a demand for a peace dividend in the spectrum.

See discussion under "force reductions" above.

CONCLUSION

Both departmental and national senior management must understand the need for military spectrum.

This is a statement of the obvious but it is the only firm conclusion, which the frequency managers were able to agree from the factors in the Aide-Me moiré. There are probably a few others:

- a. The military must recognize that it is in a competition for spectrum.*
- b. The military must recognize that its mission may not entitle it to an automatic place at the head of the spectrum line.*
- c. The military must recognize that its practices and procedures cause civilians in the private sector and in the national administration to see waste where the military sees only flexibility or budget restrictions.*

RECOMMENDATION

Every opportunity should be taken to present to senior officials the case for military access to the spectrum.

This is, indeed, about all that Principals can be expected to do. The battle for spectrum access must be waged on several fronts. While the frequency managers are the main combatants, Principals can and should play a very important supporting role - especially in fora not normally available to the frequency managers.

SIGNIFICANCE OF SPECTRUM ACCESS FOR MILITARY OPERATIONS

1. Today, as the world adjusts to the realities of the new millennium and braces for a long war against terrorism, there is a clear recognition that operations within the information domain are just as important as those conducted at sea, on land or in the air and space. Achieving information dominance, here referred to as the networking of sensors, weapons systems and decision makers, is critical to successful prosecution of a military campaign. Adequate access to radio frequency spectrum provides warfighters the full range of military capabilities for operations and training.

2. Commercial wireless technological advances and subsequent economic opportunity present significant challenges to our ability to maintain critical access to the radio frequency spectrum for training and operations. While we recognize the enormous economic potential of spectrum auctions, reallocations and band sharing we realize the impact on our military operations and must make prudent decisions to ensure national security and public safety concerns are protected. Loss of access to essential radio frequency spectrum may require the unplanned early retirement of whole communications or weapons systems or require existing equipment to transition to other frequencies potentially impacting on readiness, reducing combat effectiveness or causing expensive unprogrammed systems replacement or modification.

3. Warfighter radio frequency spectrum requirements continue to grow as new systems are developed and deployed. With recent trends towards numerical reduction in the size of armed forces, it becomes increasingly necessary to use technological advances to maintain the superiority of these smaller forces – and this inevitably requires use of equipment that makes use of the radio frequency spectrum. Our success on the battlefield largely depends on our ability to use this equipment to address vital information exchange requirements necessary to effect timely decision-making and engagement resulting in effectiveness, accuracy, protection and supremacy of our forces. Adequate national frequency access is key to training effectively with our coalition partners and subsequently our coalition warfighter preparedness. Spectrum access planning must therefore support national needs, those of visiting Allies, and be co-coordinated among coalition partners and the host nation.

4. Military dependence on information dominance is paramount in any situation from national based training to peacekeeping and humanitarian operations anywhere in the world. That same information dominance is, and will become, increasingly dependent on adequate worldwide access to radio frequency spectrum. It is imperative that we strike a reasonable and informed balance between commercial economic opportunity and military requirements necessary to support national strategies, goals and interests.

5. As we seek to transform our forces to face an evolving security environment, our goals remain firm. We must protect the interests of the free world, deter aggression,

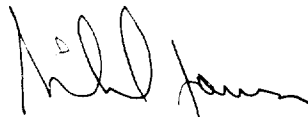
support peaceful resolution of disputes and most importantly, be ready to intervene or respond to a conflict and win. Our coalition forces must be trained and ready to respond on a moment's notice. Adequate radio frequency spectrum access is paramount in this endeavor.

On behalf of **AUSTRALIA**:



Rear Admiral Peter Clarke, RAN
Head Knowledge Systems

On behalf of **CANADA**:



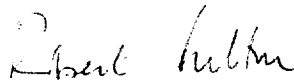
Brigadier General Michel Jones
Director General Information Management
Strategic Direction

On behalf of **NEW ZEALAND**:



Colonel James Thomson
Director Joint Command, Control,
Communications and Information Systems

On behalf of the **UNITED KINGDOM**:



Major General Robert Fulton
Capability Manager (Information
Superiority)

On behalf of the **UNITED STATES**:



Lieutenant General Joseph Kellogg, Jr.
Director Command, Control, Communications, And Computer Systems (J6)

CHAPTER 3 – ROLES

CCEB OVERVIEW

301. The CCEB considers any C4 matter that is referred to it by a particular nation or international organization. The following are examples of activities undertaken:

- a. The establishment of combined operations C-E policies, doctrine, operating methods and procedures.
- b. Initiatives to achieve interoperability of C-E systems and equipment, including principles and procedures for the development of military characteristics for such systems and equipment.
- c. The development of common national positions for negotiations with representatives of other nations, international agencies or regional defense organizations on C-E matters.
- d. The establishment of combined radio frequency management policy and procedures to facilitate the allocation/assignment of electromagnetic spectrum resources and space orbit access to satisfy combined or national military requirements.
- e. The establishment of the content, formats, distribution, and release policy of ACPs and liaising with NATO and other regional organizations or coalitions regarding the need to amend or generate new ACPs.
- f. Encourage sharing of information on emerging C-E trends and developments with potential implications for combined interoperability.
- g. The exchange of information on:
 - i. Information Security (INFOSEC) including equipment characteristics and doctrine, necessary to ensure interoperability.
 - ii. Command and control systems related to providing the ability to exercise command and control functions including sensor, information systems and communications.
 - iii. Communications-Electronics (C-E) matters of mutual interest to member nations, which are not adequately accomplished by other methods of organization.
- h. The lead coordination for C4 Technical Coordination across single service for a.

EXECUTIVE GROUP

302. The EG coordinates the development of the policy and planning needed to support the business of the CCEB, and to progress combined C-E interoperability matters on behalf of the Board. Collectively the EG governs the CCEB Strategic Plan and CCEB Management Plan documents, allocates tasks to subordinate groups, receives and actions reports from the subordinate groups on behalf of the Principals, and recommends to the Principals, objectives and priorities for the following year. Individually, national representatives to the EG are active within their own nation to encourage international harmonization of national programmes and to facilitate the coordination of national programmes in order to enhance combined interoperability. National representatives to the EG are required to identify and allocate national resources to tasks in response to agreed CCEB objectives. To an extent determined within each nation, the national representative also coordinates and harmonizes CCEB and associated single Service fora (AUSCANNZUKUS, ABCA, ASCC, TTCP and MIC) and NATO activities within each nation. Their respective Principal nominates members.

303. The functions of the EG vary according to whether it is working collectively, or whether the national representatives are undertaking national activities. The following are examples of activities undertaken collectively:

- a. Maintain the CCEB Strategic Plan and CCEB Management Plan and supervise their implementation.
- b. Validate requirements for matters raised by member nations for coordination to ensure that clear objectives and time frames for activities are established.
- c. Allocate tasks, define the appropriate organizational sub-structure of working groups arising from the CCEB Management Plan, and monitor resulting outputs. Where expedient, convene and task CCEB working groups to study particularly complex matters being considered by the CCEB.
- d. Report to the Board a list of objectives and suggested priorities for the forthcoming year based on the current state of work and the guidance issued by the Principals at previous meetings.
- e. Coordinate CCEB activities with combined single Service and other allied activities to ensure the most cost effective and efficient use of available resources.
- f. Encourage international harmonization of national programmes.
- g. Appoint national coordinators responsible for the maintenance of ACPs as agreed by the CCEB.
- h. Identify C4 trends and developments, which have possible implications for interoperability.

- i. Function as the MIC Network Multinational Interoperability Working Group (Network MIWG).
304. The following are examples of activities undertaken by EG members individually:
- a. Encourage international harmonization of national programmes and facilitate the coordination of national programmes to enhance combined interoperability.
 - b. Identify national C-E trends and developments that have implications for interoperability.
 - c. Identify and facilitate the tasking of national resources to meet CCEB objectives.
 - d. As determined nationally, promote cooperation and liaison with the national representatives of the single Service combined organizations, TTCP and NATO on C-E matters of common interest.
 - e. The EG Chairman is also the Network MIWG Chairman.
 - f. A nominated EG member represents the CCEB at the CFBLNet Steering Group.

WASHINGTON STAFF

305. The primary role of the WS is to monitor and deliver the objectives of the CCEB Management Plan on a day-to-day basis. This includes tasking the subordinate working groups and task forces, monitoring their progress and providing advice on issues for which clarification is sought from the Principals or EG. In addition, the WS will manage and facilitate a range of activities including liaison with Washington-based representatives of associated research organizations, single Service fora and other groups as required. The following are examples of activities undertaken collectively by the WS:

- a. Facilitate the achievement of interoperability between member nations by the coordination, introduction and maintenance of ACPs and related documentation and when required the exchange of information on C-E.
- b. Coordinate activity pertaining to the day-to-day management of the CCEB's tasks and raise, prepare and promulgate correspondence as required.
- c. Coordinate the review and agreement, and amendment of the content of CCEB Publications, to ensure the accuracy and adequacy of published policies, procedures and guidelines.
- d. Action matters raised by member nations for coordination by the WS.
- e. Identify C4 trends and developments that have possible implications for interoperability.

- f. Coordinate and advise working groups set up to study matters being considered by the CCEB.
- g. Promote cooperation/liaison with the Washington based representatives of the single Service standardization and interoperability organizations, NATO and TTCP on C-E matters of common interest identified at joint meetings and by the exchange of information on programmed activities
- h. Advise the EG of issues raised within the CCEB which cannot be satisfactorily addressed for reasons such as lack of accreditation to relevant agencies, national policies with regard to release of information, or the limits of CCEB resources.
- i. In consultation with the Chairman of the EG and the host nation NS member, develop and manage the agenda for the Principals meeting.
- j. The WS will provide continuity to the WGs and TFs. Chairman WS will assign a WS to be a full member of each WG and TF. The degree of involvement of the WS member with the subordinate group will be agreed between the WS member and the applicable Chairman. As a minimum, the WS member will be copied on all correspondence and attend all meetings. The WS member is to be the first point of contact in seeking clarification of tasks and the way ahead.

TERMS OF REFERENCE

306. The Principals and EG authorize the establishment of WGs and TFs to achieve desired outputs in support of the CCEB Strategic Plan. Task specific Tiger Teams (TT) may also be convened when necessary. To enable effective and efficient employment of multinational resources for the conduct of CCEB business each WG, TF and TT is provided with Terms of Reference (TOR). All TORs are ratified by the EG. As each WG, TF or TT has differing deliverables, the Chairman of each group is responsible for the maintenance and attainment of approval for all TOR amendments, on a case-by-case basis. A number of WG or TF responsibilities are enduring or longer term activities in support of CCEB business. These responsibilities form the basis of the respective group TORs. Key responsibilities for the currently established WGs and TFs are listed below.

INFORMATION SECURITY WORKING GROUP (INFOSEC WG)

307. The INFOSEC WG is responsible for:
- a. The identification and resolution, in cooperation with other international fora as appropriate, of all information assurance issues that impact now, or are foreseen to impact in the future, allied military information services within combined operational environments.
 - b. The identification or development of allied security architectures, services, protocols, policies, and procedures based around the vision provided by the CCEB Principals to achieve optimal levels of combined interoperability.

- c. The co-ordination of information assurance initiatives and harmonization of activities with single Service fora, NATO, and other international groups as appropriate.
- d. Recommending as required the creation of sub-working groups to address specific technical or operational issues.
- e. Maintain a strong technical interest in the currency of ACPs 120 and 122, develop necessary change proposals and staff them through the appropriate national sponsor.
- f. Providing an interface between the various single Service fora and the Meeting of Experts from National Security Agencies (MENSA) for all information assurance interoperability issues raised by those fora.
- g. Following each meeting, revise WG work plans and update Gantt chart details as posted on the CCEB website.

PUBLIC KEY INFRASTRUCTURE TASK FORCE (PKI TF)

308. The PKI TF reports on certificate management and public key infrastructure strategies and techniques applicable to the CCEB nations. The TF works closely with the INFOSEC WG to ensure synergy of outputs. The focus of the PFI TF is currently certificate management in relation to Public Key Encryption and Identification. In particular the PKI TF is responsible for:

- a. Establishing an authentication framework in support of the adoption of gateway architecture for secure ACP 123 messaging.
- b. Following each meeting, revise TF work plans and update Gantt chart details as posted on the CCEB website.

FREQUENCY PLANNING WORKING GROUP (FPWG)

309. The FPWG, at their annual Meeting, having taken into account national, international and CCEB policies, undertake the following functions:

- a. Ensure adequate national provision of spectrum and space orbital access for the military systems of the CCEB nations for peace or war. Spectrum requirements are met so as to ensure that C-E equipment, including weapons and other systems, operate without radio interference taking into account, as far as possible, enemy electronic warfare activities;
- b. Formulate specific policy and procedures of CCEB frequency spectrum management and planning;

- c. Coordinate military requirements for inclusion in national proposals prior to International Telecommunications Union (ITU) conferences, maintain liaison during conferences and coordinate implementation following conferences;
- d. Collect, maintain and exchange up-to-date information on frequency allocations, the use of frequencies and/or bands, and spectrum dependent equipment;
- e. Maintain liaison with ABCA, AUSCANNZUKUS NAVCOMMS/C2, ASCC and TTCP, and other CCEB WGs through the appropriate CCEB liaison officer, so as to be aware of their activities and to provide advice regarding the availability and utilization of the radio frequency spectrum;
- f. Formulate and apply methods for coordinating frequencies and issuing spectrum plans that will meet the requirements of the CCEB nations;
- g. Develop and maintain ACPs 190, 191 and CCEB Pubs 4, 1004 and 1005. All FPWG ACP coordination will be done in close cooperation with the designated national sponsor for the document and within the guidelines of ACP 198; and
- h. Revise WG work plans and update Gantt chart details as posted on the CCEB website, following each meeting,

DIRECTORY SERVICES WORKING GROUP (DSWG)

310. The DSWG is to:

- a. Identify issues associated with interoperable Allied and coalition directory services;
- b. Develop and maintain the Allied Directory Services standard (ACP 133) and Pub 1008;
- c. Develop and maintain related documentation necessary to implement and operate interoperable Allied and Coalition directory services;
- d. Support the CWAN and Messaging TF in the establishment of Directory Services; and
- e. Revise work plans and update their WG Gantt chart details as posted on the CCEB website, following the completion of meetings.

CWAN WORKING GROUP (CWAN WG)

311. The CWAN WG is to:

- a. Develop an analysis of the options for providing the initial capability of exchanging secure email with attachments between the CCEB Nations national C2 systems;

- b. Consider issues such as architecture layout, interconnection, security and feasibility, order of magnitude costs, implementation options, time scales, operator usability, CWAN operation and management options, logistic and personnel support;
- c. Identify advantages and disadvantages of each CWAN option together with the risks associated with each option and “show stoppers” that may prevent implementation;
- d. Draw conclusions and recommend the options to be pursued; and
- e. Revise work plans and update their WG Gantt chart details as posted on the CCEB website, following the completion of meetings.

ALLIED COMMUNICATIONS PUBLICATIONS WORKING GROUP (ACP WG)

312. The ACP WG is to:

- a. Maintain the currency and status records of all CCEB ACPs.
- b. Coordinate the development and production of new or updated CCEB ACPs with sponsor nations or organizations responsible for their production, and/or the NATO ACP WG (NACPWG) coordination organization where necessary, and oversee their distribution.
- c. Develop and maintain the ACP 198 in conjunction and cooperation with the appropriate national sponsor.
- d. Revise work plans and update their WG Gantt chart details as posted on the CCEB website, following the completion of meetings.

MESSAGING TASK FORCE (Messaging TF)

313. The Messaging TF is to:

- a. Consider and develop allied interoperability between national formal military messaging environments using ACP 123 messaging standards and protocols.
- b. Maintain a strong technical interest in the currency of ACPs 123 and 133, develop necessary change proposals and staff them through the appropriate national sponsor.
- c. Develop agreed common security policies for secure ACP 123 messaging between the CCEB nations.
- d. Revise work plans and update their TF Gantt chart details as posted on the CCEB website, following the completion of meetings.

VIDEO TELECONFERENCING TASK FORCE (VTC TF)

314. The VTC TF is to:

- a. Develop and maintain policies, procedures and techniques for the conduct of both non-secure and secure system high video teleconferencing between the CCEB nations, including the ability to conduct multi-point bridged VTCs.
- b. Develop an initial VTC ACP and maintain a strong technical interest in the currency of the ACP from the development of necessary change proposals and the subsequent staffing of them through national sponsors.
- c. Revise work plans and update their TF Gantt chart details as posted on the CCEB website, following the completion of meetings.

CHAPTER 4 – SUBSTRUCTURE MODUS OPERANDI

GENERAL

401. The chairman and secretarial support for the WGs and TFs are provided by the same nation, normally for a period of one year. The changeover of responsibility generally occurs in accordance with the matrix of chair/host nation responsibilities as detailed in Pub 2, however in practice the outgoing chairman usually reports the activities of his/her group at the Annual Principals' meeting. In the event that the subordinate group members believe its business can be better progressed by extending the tenure of the incumbent chairman or by varying the rotation of the chairmanship, it will make a suitable recommendation to the Chairman of the EG. After consulting with all EG members the Chairman of the EG will obtain the concurrence of the Principals.

402. The chairman is responsible for the conduct of business, including calling notices, agendas, meeting administration, record of meetings, action on papers and coordination of comment and briefs, and should ensure that relevant papers are circulated in advance of each meeting so that nations have sufficient time to staff issues internally. The chairman or a delegated representative may be asked to participate in relevant agenda items of EG meetings.

403. Participants consist of appropriate national experts from the CCEB nations. While each group's work program will be approved by the EG in accordance with the CCEB Strategic Plan and CCEB Management Plan, each group must be cognizant of the need to respond to the WS which is responsible for the day-to-day delivery and monitoring of the CCEB Management Plan. The Chairman WS is to ensure there is at least one WS member appointed as an integral team member of each WG/TF.

WORKING ROUTINE

404. Working process and decision making:

- a. Each WG and TF strives to achieve the unanimous agreement of member nations. However, in the event that this is not achievable, advice based on majority opinion may be offered, provided that it is made clear at the time that unanimity was not achieved.
- b. The business of each WG and TF should be conducted through informal discussion and correspondence wherever possible. To this end WG and TF recommendations will not amount to specific commitments by member nations. However, support of a recommendation is to be considered a declaration of intention given in good faith at the time.
- c. Decisions will be informal and non-binding until ratified or approved by the appropriate parent organizations. Actions resulting from discussions and agreements within the WGs and TFs must be formally staffed and introduced

nationally, or in NATO, and coordinated through existing processes and procedures.

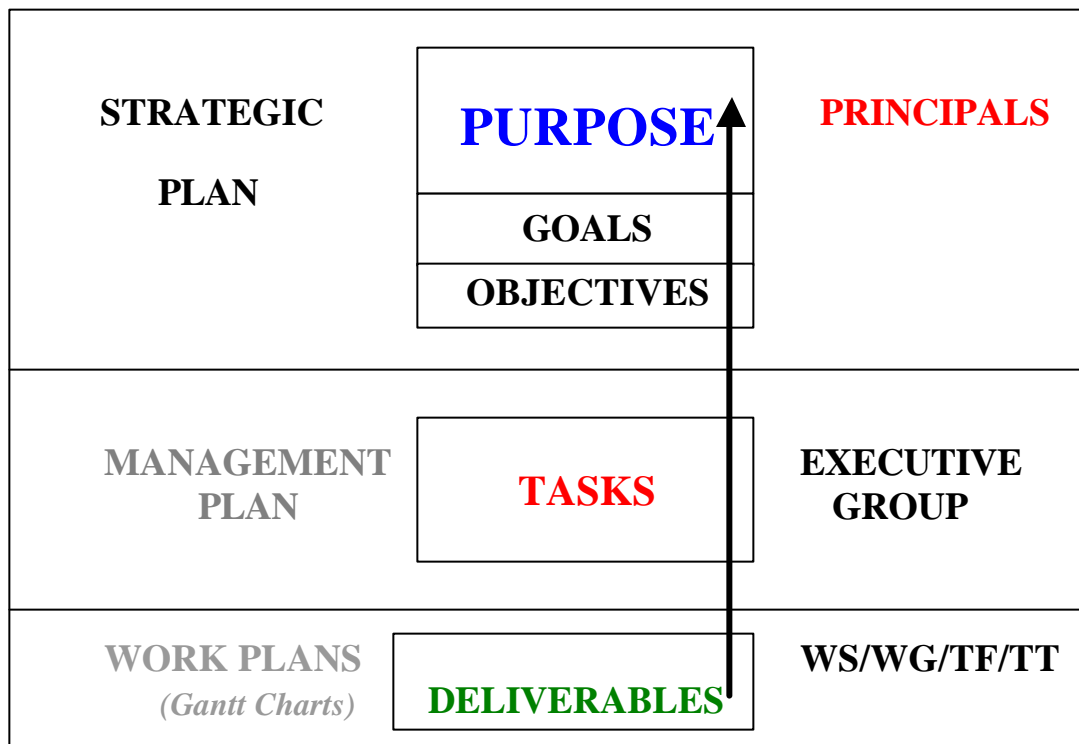
405. Meetings. WG and TF meetings are to be held in accordance with the guidelines of Publication 2.

406. Sub-Working Groups. WGs may seek to create ad-hoc sub-groups from time to time to address a specific subject related issue which demands a greater depth of expertise than that possessed by the parent body. The formation of a sub-working group is to be approved by the EG who will, where necessary, obtain approval for resources from their nations/Principals. The sub-group chairman will be selected at the time of agreeing to form the sub-group. Whenever possible, the sub-working group's meetings will coincide with the full WG's meetings.

407. Documentation and Correspondence. Documentation and correspondence is to be raised and administered in accordance with the provisions of CCEB Pub 2.

MANAGEMENT PLAN ONTOLOGY

408. The CCEB organization has interdependent documents, resources and systems designed to attain the organization's vision. These attributes and their relationships are shown pictorially in the ontology below (Figure 4 – 1).



CCEB MARKETING PLAN

“To promote, demonstrate and reinforce the value of the CCEB and its products to nations, allies and coalitions”

409. The single most effective marketing activity for the CCEB is delivery of tangible benefits to the Warfighter. However, to help achieve this, there needs to be wide understanding of the CCEB's role, as well as commitment and buy-in to its Goals from across the whole of the Defence enterprise in each CCEB nation. This Marketing Plan outlines the basic activities that the CCEB will undertake to achieve this.

410. Marketing is a constant process, which should be planned each year according to perceived needs at the time. The EG is responsible for identifying marketing targets each year and for defining Tasks for delivery under the Management Plan. Marketing will therefore be an agenda item at the first EG meeting that follows the Principals' annual meeting, and as necessary at subsequent meetings. The EG will normally report against its marketing targets at each Principals' meeting.

411. It is also important that CCEB members at all levels are involved in the marketing process, as they are ones most likely to do the marketing and to get feedback on how the CCEB is perceived. In setting targets, the EG will therefore consult widely within the CCEB. There are many ways in which the CCEB can market itself. The table below (Table 4 – 1) outlines the main activities that should be considered.

Marketing Activity	Comment
CCEB Web Site	Constant development and updating. Must be set-up so that it reaches target audiences. Web Strategist assigned from WS.
CCEB Briefings to other Multinational Fora and Alliances	Maximise opportunities to brief staff at all levels from other fora such as ABCA, ASCC, AUSCANNZUKUS Naval C4, MIC, TTCP, NATO Boards, MIP, QCJWC, CFBLNet and JWID.
CCEB Briefings to Industry and Learned Institutions related to C4	Maintain awareness within industry, defence companies, research-based organizations, standards bodies, R and D institutions and other professional organizations such as AFCEA, AOC etc.
Promotion of CCEB within Nations	Briefing within each nation to key C4 decision-making organizations across defence, single-service environments, Staff Colleges, Training organizations, and Chains of Command.
Consultation and Inclusion	Ensuring, where appropriate, that invitations are extended to C4-related organizations to participate in CCEB meetings and activities at all levels.

Social Entertaining	Where possible, CCEB Staff should seek to use social occasions to build relationships with related organizations.
C4 (Technical) Lead Coordinator Role	The CCEB's function as the C4 (Technical) Lead Coordinator is an influential and key role that should be promoted wherever possible.
Publicity Officers	Consideration should be given to assigning Publicity Officers from within the CCEB to take forward marketing nationally and across the CCEB as a whole.
Individual Marketing	Principals, EG, WS, PS and all WG/TF members should actively promote the CCEB within their circles of influence.
Media (Professional or Open Source)	Consideration should be given to promoting CCEB through magazine articles such as Defence journals and related publications
Marketing Material	Examples of CCEB Powerpoint Briefs/Scripts are on the CCEB Website. Consideration should also be given to the value of CCEB pamphlets/brochures, briefing packs, and other marketing devices such as mouse mats etc

CCEB LESSONS LEARNED PROCESS

“What experience and history teach is this – that nations and governments have never learned anything from history, or acted upon any lessons they might have drawn from it.”
– GWF Hegel (1770-1831): *Lectures on the Philosophy of World History*

412. The Process detailed below sets out the tasks to be carried out by the CCEB in order to capture and disseminate ‘Lessons Learned’ from coalition operations. The aim of the Process is to ensure an agreed procedure whereby the CCEB is able to identify the lessons learned from Warfighter experience of coalition operations (and exercises), and for the CCEB to then respond by delivering solutions to the Warfighter through its normal business processes.

413. The Lessons Learned Process comprises 5 main tasks. The overall owner of the Process is the EG. Below this level, the responsibility for carrying out the individual tasks is identified and is generally the EG or WS. The Process is shown diagrammatically at Figure 4 - 1 below. The tasks, outputs, and task ownership are explained in the Table 4 - 2.

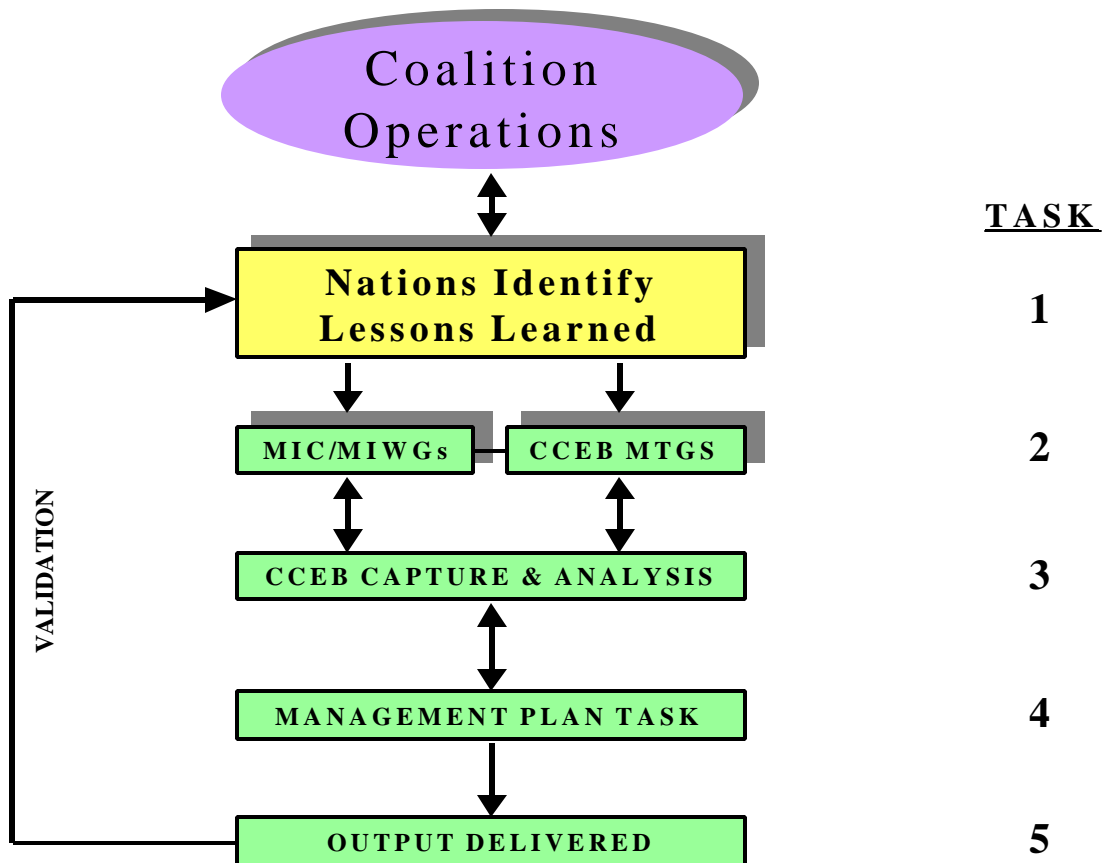


Figure 4 - 1. Management Plan Process

TABLE 4 - 2 – BREAKDOWN OF TASKS FOR LESSONS LEARNED PROCESS

<u>Task No</u>	<u>Task Owner</u>	<u>Task</u>	<u>Comment</u>	<u>Output</u>
1	Nations	Identify Lessons Learned from Coalition Operations	Nations that are involved in Coalition operations and exercises may identify lessons learned that have relevancy to C4. Nations should have an internal process that captures these lessons so that national CCEB and/or MIC/MIWG representatives are made aware of them.	Lessons Learned by nations involved in Coalition Ops
2	EG	Share Lessons Learned Through CCEB and MIC Fora	Technical C4 related issues are shared by CCEB Principals, EG members and others during normal CCEB business processes such as	Identified Lessons Learned relevant to the CCEB

			EG Meetings, Principals Meetings, and also in the MIC/MIWG fora. Nations in the MIC/MIWG fora might also share J3-type lessons that have implications for technical C4. The EG participate in both MIC/MIWG and CCEB business and are therefore the most appropriate task owner. The EG should therefore ensure that Lessons Learned is a standing Agenda Item where appropriate to ensure such experience is shared.	the CCEB
3	EG	Capture and Analyse Lessons Learned	Once a Lesson Learned has been identified and shared, the CCEB then addresses it and decides on what action should be taken to address the issue. For example, it may decide to assign a new MP Task, amend an ACP, or set up a WG/TF. Decision-making on the response to a Lesson Learned is most likely to happen at the Principal or EG-levels.	Agreed CCEB Course of Action to Respond to Lesson Learned
4	WS	Assign and Manage CCEB Solution through CCEB Management Plan	To be effective in addressing Lessons Learned, any CCEB response will probably need to be defined and monitored as part of the CCEB MP Process. It is then the responsibility of the WS to ensure delivery of the MP Task output as part of normal CCEB business.	Manage and Deliver MP Tasks on behalf of the EG
5	EG	Deliver and Validate the Solution	Once the MP Task output is delivered, nations then incorporate and validate the solution where appropriate. This might involve changes to equipment or to TTPs, and then validation through exercises or operations. In any case, validation is continued until the Lesson Learned is satisfactorily addressed. The EG are responsible for validation within their nations and the CCEB.	A Validated Solution that meets agreed Warfighter Needs

CHAPTER 5 - RESPONSIBILITIES

CHAIRMAN OF PRINCIPALS

501. Purpose. The Chairman of Principals gives overall direction on CCEB matters on behalf of the Board.

502. Authority. The Chairman of Principals is authorized to:

- a. Communicate directly with other Principals and when required give direction to the chairmen of the EG, WS and subordinate groups on CCEB matters.
- b. Liaise with the chairmen of the MIC, combined single Service organizations, TTCP and NATO on CCEB issues.
- c. Set the agenda for the annual Board meeting.

503. Accountability. The Chairman of Principals is accountable to the other Board members for the progress of CCEB business during his period of office.

504. Principal Tasks.

- a. Monitor and guide the work of the EG and the WS in implementing agreed CCEB policies, ensuring that the decisions and intent of the Board are addressed.
- b. Initiate consultation with the other Principals on CCEB issues of an urgent nature requiring a collective Board decision.
- c. Host the annual Principals meeting and make appropriate arrangements for the business to be discussed.
- d. Promote the visibility of the CCEB in appropriate national and international joint/single Service interoperability forums.
- e. Encourage Principals to influence their national C4 initiatives and projects to implement CCEB developed standards and procedures that have the potential to enhance allied interoperability.
- f. Encourage Principals to influence their national resource managers to ensure that adequate resources are assigned to support agreed C4 interoperability activities.
- g. Chair video teleconferences amongst the CCEB Principals throughout the year.

505. Tenure of Office. The Chairman of Principals will normally be appointed for a period of 12 months culminating in the annual Principals' meeting. Rotation of chairmanship shall be in accordance with Publication 2.

CHAIRMAN OF THE EXECUTIVE GROUP

506. Purpose. To progress CCEB business on behalf of the Board.

507. Authority. The Chairman of the EG is authorized to:

- a. Communicate directly with the Chairman of Principals on matters of CCEB interest.
- b. Direct the chairmen of subordinate groups to complete Board tasks and associated supporting work.
- c. Liaise with the chairmen of the combined single Service organisations, TTCP and NATO on matters of CCEB interest.

508. Accountability. The Chairman of the EG is responsible to the Chairman of Principals for the progress of CCEB business. To this end, the Chairman of the EG will provide a progress report to the Chairman of Principals twice a year. One report will be made after the EG meeting that is held in the fourth quarter of the calendar year. The other report will be made to the Principals' annual meeting.

509. Principal Tasks.

- a. Facilitate the efforts of EG members to develop and maintain the CCEB Strategic Plan and the CCEB Management Plan ensuring currency, content and accuracy. The CCEB Strategic Plan will consist of the following elements: vision; mission; goals; key indicators that are linked to management appraisal of operational gaps, priorities and activities.
- b. Monitors and guides EG work, providing direction to the subordinate groups as required.
- c. Promote co-ordination of activities between the CCEB and the MIC/working groups, other single Service organisations, NATO and the TTCP.
- d. Encourage EG members to influence their national C4 programs to enhance combined interoperability.
- e. Manage the agenda and arrangements for EG meetings.
- f. Work with the appropriate NS member and the Chairman of the WS to ensure that the preparations for the Principals' annual meeting and periodic VTCs are concluded in accordance with CCEB procedures detailed in Publication 2.
- g. Co-ordinate the preparation, agreement and timely submission of an annual EG report to the Board including proposed objectives, priorities, and associated resource implications for the forthcoming year. This report will be structured in such a manner that it includes:

- (1) a review of all tasks assigned by the Principals at previous Board meetings,
 - (2) all decisions made by the EG on behalf of the Principals during the past year,
 - (3) major tasks, priorities and guidance assigned to subordinate bodies during the past year,
 - (4) implications arising from the decisions and actions taken by the EG, and
 - (5) propose future significant activities and strategic direction for the CCEB, and reports on matters referred to the EG which cannot be satisfactorily addressed or concluded for any reason.
- h. Monitor national and international C-E trends and developments to identify issues which have potential implications for interoperability among CCEB nations, referring significant matters to the EG for discussion.
 - i. Coordinate the annual review of Pub 1 and presentation of amendments to the Principals at the annual Board meeting.
 - j. Produce a monthly activity report to the Principals highlighting the progress of CCEB work during the past month, and proposed accomplishments for the upcoming month.

510. Tenure of Office. Rotation of chairmanship shall normally mirror the Chairman of Principals.

CHAIRMAN OF THE WASHINGTON STAFF

511. Purpose. To progress CCEB matters on behalf of the Board and EG.

512. Authority. The Chairman of the WS is authorized to:

- a. Communicate directly with the Chairman of Principals, keeping the Chairman of the EG informed.
- b. Communicate directly with the Chairman of the EG.
- c. Communicate directly with the chairmen of the subordinate groups for the day-to-day delivery and monitoring of the CCEB Management Plan.
- d. Liaise with the Washington-based representatives of the combined single Service organizations, MIC, TTCP and NATO on CCEB business.

513. Accountability. The Chairman of the WS is:

- a. Responsible to the Chairman of the EG for the progress of CCEB business in support of the CCEB Management Plan, during his appointment.

- b. Responsible for providing an annual report to the Chairman of EG prior to Principals meeting. The structure of the report will be determined by the EG but is to be cognizant of the need to report only the issues of interest to the Principals.
- c. Responsible to the WS for ensuring that national views are given equal consideration and that the corporate WS position is accurately presented.
- d. Responsible for providing a WS report to each EG meeting.

514. Tasks.

- a. Co-ordinate WS activity including timely preparation, agreement, signature and promulgation of all WS Directives, Reports and Combined Agreements.
- b. Work with the appropriate NS member and Chairman of the EG to ensure that the arrangements for the Principals' annual meeting are organized in accordance with the CCEB procedures delineated in Publication 2.
- c. Coordinate and conduct WS meetings in accordance with CCEB procedures delineated in Publication 2.
- d. Co-ordinate the preparation, agreement and timely submission of WS reports to the EG including:
 - (1) Routine progress reports to be submitted to each EG meeting. Reports will be structured in such a manner that they include:
 - i. a review of all tasks assigned by the EG at and after the previous EG meeting;
 - ii. all significant decisions made by the WS since the last report, significant WS activities;
 - iii. a report on the status of WG and WG objectives and tasks as detailed in the CCEB Management Plan and the WS and subordinate groups POW. Delays or impediments to achieving defined milestones are to be highlighted; and
 - iv. major tasks, priorities and guidance assigned to subordinate bodies since the last report, and implications arising from the decisions and actions taken by the WS.
- e. Reports in respect of the first and third quarter fact-finding or professional development visits made by the WS.
- f. Reports on current and emerging interoperability issues and on matters referred to the CCEB that cannot be satisfactorily addressed or concluded for any reason.

- g. Consult with the Chairman of EG shortly after the submission of each WS report to discuss objectives and progress.
- h. Coordinate WS representation at subordinate group meetings to monitor and when necessary provide guidance, which should enable WGs and TFs to conform to Board decisions and direction.
- i. Coordinate liaison activities with the Washington based single Service standardization/interoperability organisations, MIC, TTCP and NATO in conjunction with the nominated liaison officers for these organisations.
- j. Facilitate WS discussion of national and international C-E trends and developments to identify issues that have potential implications for interoperability among CCEB nations, referring significant matters to the EG as required.
- k. Draft a monthly activity report, less those months where limited activity warrants non-production of a report, and forward the draft to Chairman EG by the 15th of each month. The MAR is to provide a high level overview of activities and milestones achieved throughout the month.

515. Tenure of Office. The Chairman of the WS will be a member of the WS and will normally be appointed for a 12-month rotation, commencing immediately after the Principals meeting. The WS will determine the rotation and advise the EG at its Nov meetings.

PERMANENT SECRETARY

516. Purpose. To co-ordinate the day-to-day business of the CCEB and provide secretariat support to the annual Board meeting, all EG meetings and the Washington Staff.

517. Authority. The PS is authorized to:

- a. Communicate directly with the chairmen of Principals, the EG, the WS and the subordinate groups on current matters of interest.
- b. Liaise directly with NS points of contact on urgent action items.
- c. Liaise, at an appropriate level, with the combined single Service organisations, MIC, NATO and the TTCP on matters of mutual interest.

518. Accountability. The PS is responsible to the Chairman of the EG and the Chairman of the WS for the performance of principle tasks associated with the EG and the WS.

519. Tasks.

- a. Attend and coordinate the preparation of Minutes at the Board and EG meetings.

- b. Attend and act as Minute Secretary at WS meetings.
- c. As directed by the Chairman EG, produce draft Agendas and other documents required for the meetings of the EG. As directed by the Chairman of the WS produce draft Agendas, Minutes, and other documents required for the meetings of the WS.
- d. Prepare CCEB staff visit reports for the Chairman of the WS.
- e. Provide chairmanship of the CCEB ACP WG and provide liaison with the WS and national POCs on all aspects of ACP management.
- f. Attend NACPWG coordinators meetings at least once annually.
- g. Post and maintain CCEB publications on the CCEB Web Page, electronically distribute CCEB Publications and maintain a master copy of CCEB Publications.
- h. Brief at each meeting of the WS on upcoming and current reviews of ACPs, printing and distribution of ACPs, Action Items, and any other matters as appropriate.
- i. Manage the CCEB Home Page in accordance with the policy detailed in CCEB Publication 2.
- j. Maintain and regularly distribute a current contact list of all CCEB participants.
- k. Co-ordinate the progress of all WS items to ensure their timely completion.
- l. Draft all cover pages for Directives, Action Officer Reports and Combined Agreements that will be signed by the Chairman of the WS.
- m. Maintain official records of all papers within the CCEB organization.
- n. When deemed necessary by the Chairman of the WS, attend WG and TF meetings as an observer when the meetings are held in the Washington area.
- o. Seek out and recommend improvements to the CCEB administrative process.

520. Tenure of Office. The PS post is an international tri-Service post at Major equivalent level, with a three-year continuity. Nations will fill the appointment in rotation in the order UK, CA, AS, NZ, unless agreed otherwise. The US will provide office space and administrative support facilities.

WORKING GROUP OR TASK FORCE CHAIRMAN

521. Purpose. To provide leadership to designated multinational subject matter experts or national project leaders, to progress CCEB matters on behalf of the Board and EG.

522. Authority. The Chairman of WGs and TFs are authorized to:

- a. Communicate directly with the Chairman of the EG, keeping his/her respective national EG member informed.
- b. Communicate directly with the Chairman of the WS, the appointed WS liaison member and/or other WS members, as is necessary, and the PS.
- c. Communicate directly with the Chairmen of other CCEB groups to effect synergies with delivery and monitoring of the CCEB Management Plan tasks.

523. Accountability. The Chairman of a WG or TF is:

- a. Responsible to the Chairman of the EG, and the Chairman of the WS for coordination purposes, for the progress of CCEB business in support of their groups specific tasks as prescribed in the CCEB Management Plan.
- b. Responsible for providing reports to the Chairman of EG as requested. One report will normally be made after the EG meeting held in the fourth quarter of each calendar year, whilst the other will be made at the annual meeting of the Board. The structure of these reports will be advised but will normally be a combination of a slide show and a supporting formal report, relative to those issues of interest to the EG and/or the Principals.
- c. Responsible to their appointed WS liaison member for the adherence to CCEB procedures and processes, to ensuring that all respective nations views are given equal consideration and that the corporate WS position is accurately presented.
- d. Responsible for providing the WS a report prior to each EG meeting, and forwarding the latest information to the WS Chairman for inclusion in the CCEB Monthly Activity Report.

524. Tasks.

- a. Chairman are to arrange and lead two annual meetings for their group members, to ensure that the prescribed tasks as listed in the CCEB Management Plan are being addressed and managed to the satisfaction of the EG.
- b. Conduct meeting administration in accordance with coordination procedures prescribed in Pub 2.
- c. Upon occurrence, report immediately to the Chairman of the EG any issues impeding the continuance or completion of allocated tasks.

525. Tenure of Office. Chairmanship of WGs and TFs is appointed via mutual agreement between the EG and the providing nation. Rotation of the appointed chairman will normally occur annually and in the sequence as laid down in Pub 2. Following this procedure provides for equity of chairmanship between the five CCEB nations.